

Serial No. 07/980,547

connector comprising:

means constituting a tubular chamber extending between an upstream coupling means extending from said chamber toward an upstream end of said connector and a downstream coupling means extending from said chamber toward a downstream outlet opening of said connector [situated at opposite ends of the chamber and fixed relative to each other], said upstream coupling means including an upstream [constituting a] passage extending from said upstream end to said chamber and said downstream coupling means including a downstream passage extending from said chamber to said downstream outlet opening;

C1  
a hollow needle which is fixed in [the] said upstream passage [chamber] and which is [suitable] disposed in said chamber for causing said [the] upstream [coupling] passage to be in fluid communication [communicate] with said [the] downstream [coupling] passage; and

a plug being made of material that permits [suitable for being passed through by] said [the] needle to be passed through it and that recaptures its closure properties whenever said needle is not passing through it, said [the] plug being mounted in said downstream [the] passage [of the downstream coupling] so as to be capable of sliding between a downstream stable closure position where the plug closes said downstream passage, [and] where [the] said needle does not pass through

C' [the] said plug, and where said plug completely fills said downstream outlet opening so as to prevent any dead volume at said downstream outlet opening to thereby prevent bacteria from entering said downstream passage, and an upstream position where said needle does pass through said [the] plug and towards which said [the] plug can be pushed by a member inserted in said downstream passage from outside said connector through said downstream outlet opening, and spring means situated in said [the] chamber resiliently urging said [the] plug towards its downstream stable closure position[, the material of the plug being such that the plug retrieves its closure properties when the needle is not passing through it;

wherein said passage of the downstream coupling has an outlet opening that is completely filled by the material of the plug when the plug is in its stable closure position, thereby preventing any dead volume at the end of the coupling and preventing bacteria entering at this location; and

wherein the means resiliently urging the plug is a spring].

[ Claim 2, line 2, replace "passage" with --downstream coupling means--.

Claim 3, line 2, replace "passage" with --downstream coupling means--.

Claim 5, lines 5-6, replace "of the chamber upstream  
from said passage" with --in said  
downstream coupling means--

Rewrite claims 8 and 9 as follows:

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8. (amended) A connector according to claim 1,  
wherein said downstream passage of [the] said downstream coupling  
means [is] includes a conical [in shape] shaped portion extending  
from said downstream outlet opening.

9. (amended) A connector according to claim 8,  
wherein said plug has a conical shape complementary to that of  
said conical shaped portion of said downstream passage.

Claim 13, line 2, following "coupling" and preceding  
the comma, insert --means--.

Delete Claim 14.

Claim 15, line 2, preceding "is", insert --means--.

Claim 16, line 5, following "coupling", insert

--means--;

line 6, following "coupling" and preceding

the comma, insert --means--;

line 8, following "coupling" and preceding

the comma, insert --means--;

line 9, following "coupling" and preceding

the comma, insert --means--;

Claim 17, line 2, following "coupling", insert

--means--;

Claim 18, line 2, following "coupling", insert

--means--;

Claim 19, line 2, following "coupling" and preceding

the period, insert --means--;

Claim 20, line 2, following "coupling", insert

--means--;

line 2, replace "receive" with --receives--.

Claim 21, line 2, following "coupling", insert

--means--;

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[ Rewrite claim 22 as follows:

20 22. (twice amended) A connector for a liquid comprising:

chamber means extending between an upstream coupling means and a downstream coupling means [situated at opposite ends of said chamber means], said downstream coupling means having an outlet [means] opening at one end of said connector;

a hollow needle means disposed in said chamber means for coupling said upstream coupling means to said downstream coupling means;

C3 a plug means through which said needle means can be moved, said plug means being made of a material that has closure properties when [the] said needle is not passing through it;

[resilient] spring means disposed in said chamber means for urging said plug means to a downstream closure position where said plug means closes said outlet opening of said downstream coupling means by completely filling said outlet opening [and where] such that when said needle means does not pass through [the] said plug means [such that] said outlet [means] opening is completely filled by said material of said plug[, ] to thereby [preventing] prevent any dead volume [at the end of] in said downstream [coupling] outlet opening [means] and [preventing] to thereby prevent bacteria from entering said connector through said downstream coupling means; and